

**REMARKS**

This Amendment, submitted in response to the non-final Office Action dated May 28, 2004, is believed to be fully responsive to the points of rejection raised therein. Accordingly, favorable reconsideration on the merits is respectfully requested.

The Specification has been amended to remove the informality noted by the Examiner. Claim 21 has been amended to remove the informality noted by the Examiner.

Claims 1, 3, 4, 8-15, 17-39 and 41 are pending. Claims 2, 5, 6, 7, 16, and 40 are cancelled above. All of the pending claims except Claims 34 and 37 are amended. No new matter has been added by the amendments.

Claims 1-41 have been rejected under 35 USC 112, second paragraph, as being indefinite. Claims 24-30 have been rejected under 35 USC 102(e) over commonly assigned US Patent No. 6,614,872 (Bueno). Claims 1-5, 7, 9-15, 19-23 and 39 have been rejected under 35 USC 103(a) over US Patent No. 5,587,191 (Kingsley), in view of the technical publication "Active-Matrix Pixelized Well Detectors on Polyimide Substrates" (Huang). Applicants respectfully submit the following remarks in support of the patentability of the claims.

**1. 35 USC 112[2]:**

**a. *Claims 1-41:***

The Examiner objected to the use of the term "flexible" in the claims as being indefinite. Applicants believe that the term "flexible" is definite and would be understood by one skilled in the art based on its ordinary meaning, its ordinary use in the art, and the Specification. For example, paragraph 20 states "known substrates for solid state fluoroscopic radiation imagers are rigid, for example comprising glass. In contrast substrate 101 is flexible, as indicated in Figure 1 by the exemplary curvature." Further, paragraph 22 lists exemplary materials for the flexible substrate. In addition, a method embodiment includes a bending step (Paragraph 45). However, to expedite prosecution, the term "flexible" has been removed from the claims. In view of the above, Applicants submit that the claims are definite and respectfully request that the rejections under 35 USC 112, second paragraph, be withdrawn.

b. *Claims 8 and 17:*

Claim 8 stands rejected under 35 USC 112, second paragraph. Claim 8 has been amended to remove the term "flexible" and rewritten in independent form. Claim 17 stands rejected under 35 USC 112, second paragraph. Claim 17 has been amended to remove the term "flexible." Both Claims 8 and 17 recite a back surface layer comprising a plurality of heating elements. The Examiner has pointed to no teaching of this feature in the art. In view of the above, Applicants respectfully submit that Claims 8 and 17 are in condition for allowance.

c. *Claims 31 and 32:*

Claims 31 and 32 stand rejected under 35 USC 112, second paragraph. Claims 31 and 32 have been amended to remove the term "flexible." No rejection of Claim 31 or 32 under 35 USC 102 or 35 USC 103 was presented in the Office Action dated May 28, 2004. In view of the above, Applicants respectfully submit that Claims 31 and 32 are in condition for allowance.

d. *Claims 33-38:*

Claims 33-38 stand rejected under 35 USC 112, second paragraph. Claims 33-38 have been amended to remove the term "flexible." No rejection of Claims 33-38 under 35 USC 102 or 35 USC 103 was presented in the Office Action dated May 28, 2004. In view of the above, Applicants respectfully submit that Claims 33-38 are in condition for allowance.

e. *Claim 41:*

Claim 41 stands rejected under 35 USC 112, second paragraph. Claim 41 has been amended to remove the term "flexible" and rewritten in independent form. No rejection of Claim 41 under 35 USC 102 or 35 USC 103 was presented in the Office Action dated May 28, 2004. In view of the above, Applicants respectfully submit that Claim 41 is in condition for allowance.

2. **35 USC 102(e):**

Claims 24-30 stand rejected under 35 USC 102(e) over commonly assigned US Patent No. 6,614,872 (Bueno). On page 4 of the Office Action, the Examiner cites Bueno as showing conforming a flexible digital imager to the subject, citing Col. 4, lines 16-19 and Fig. 4. Applicants respectfully submit that Bueno does not teach the step of conforming a digital detector to the subject. In particular, the section cited in the Office Action is directed to a conformable frame 46. The frame rails are indicated by reference numeral 48. Radiation detector is indicated by reference numeral 42 in FIG. 4.

In view of the fact that Bueno does not teach conforming a digital imager to the subject as recited by Claim 24, Applicants respectfully submit that Claim 24 is not anticipated by Bueno. Further, as Claims 25-30 depend from Claim 24, these claims are also patentably distinguishable over Bueno, for at least the reasons presented with respect to Claims 24. Accordingly, Applicants respectfully request that the rejections of Claims 24-30 under 35 USC 102(e) over Bueno be withdrawn.

**3. 35 USC 103(a):**

*a. Claims 1, 3, 4 and 9-14:*

Claim 1 has been amended to include the additional recitations of original Claims 2 and 6. No new matter has been added by the amendment. Amended Claim 1 is directed to an imager for imaging a subject illuminated by incident radiation. The imager includes a substrate comprising a polymer. The substrate is about three (3) mils to about eight (8) mils in thickness. This imager further includes a photosensor array disposed on the substrate, and a scintillator disposed so as to receive and absorb the incident radiation, configured to convert the incident radiation to optical photons, and optically coupled to the photosensor array. The photosensor array is configured to receive the optical photons and to generate an electrical signal corresponding to the optical photons.

Claim 1 stands rejected over US Patent No. 5,587,191 (Kingsley), in view of the technical publication "Active-Matrix Pixelized Well Detectors on Polyimide Substrates" (Huang). Kingsley is directed to a solid state fluoroscopic radiation imager with thin film transistor addressable array. Kingsley does not disclose a polymeric substrate. Huang is cited to supply this recitation. However, the Office Action does not point to any teaching that the substrate be about three (3) mils to about eight (8) mils in thickness, as recited by amended Claim 1. For at least this reason, Applicants submit that Claim 1 is patentably

distinguishable over the cited art. Further, as Claims 3, 4 and 9-14 depend from Claim 1, these claims are also patentably distinguishable over the cited art for at least this reason. Accordingly, Applicants respectfully request that the rejections of Claims 1, 3, 4 and 9-14 under 35 USC 103(a) be withdrawn.

b. *Claims 15 and 18-23:*

Claim 15 has been amended to include the additional recitations of original Claim 16. No new matter has been added by the amendment. Amended Claim 15 is directed to a digital imager for imaging a subject illuminated by incident radiation. The digital imager includes a substrate comprising a flexible organic polymer and being about three (3) mils to about eight (8) mils in thickness. A photosensor array is disposed on the substrate and includes a number of photosensors and an addressable thin film transistor (TFT) array comprising a number of TFTs. The photosensors are arranged to form a number of columns and at least one row, and each of the TFTs is electrically coupled to a respective one of the photosensors so as to selectively address respective photosensors in the photosensor array. A scintillator is disposed so as to receive and absorb the incident radiation, configured to convert the incident radiation to optical photons, and optically coupled to the photosensor array. The photosensor array is configured to receive the optical photons and to generate an electrical signal corresponding to the optical photons.

Claim 15 stands rejected over Kingsley, in view of Huang. The cited art does not teach and the Office Action does not point to any teaching that the substrate be about three (3) mils to about eight (8) mils in thickness, as recited by amended Claim 15. For at least this reason, Applicants submit that Claim 15 is patentably distinguishable over the cited art. Further, as Claims 18-23 depend from Claim 15, these claims are also patentably distinguishable over the cited art for at least this reason. Accordingly, Applicants respectfully request that the rejections of Claims 15 and 18-23 under 35 USC 103(a) be withdrawn.

c. *Claim 39:*

Claim 39 has been amended to include the additional recitation of original Claim 40. No new matter has been added by the amendment. Amended Claim 39 is directed to a linear array computer tomography (CT) scanner for imaging a subject illuminated by

incident radiation. The linear array CT scanner includes a substrate comprising a polymer. A linear photosensor array is disposed on said substrate and includes a number of photosensors arranged in a row and an addressable thin film transistor (TFT) array comprising a number of TFTs. Each of the TFTs is electrically coupled to a respective one of the photosensors so as to selectively address respective photosensors in the linear photosensor array. A scintillator is disposed so as to receive and absorb the incident radiation, configured to convert the incident radiation to optical photons, and optically coupled to the linear photosensor array. The linear photosensor array is configured to receive the optical photons and to generate an electrical signal corresponding to the optical photons. Each of the photosensors is oriented at a predetermined angle relative to an adjacent one of the photosensors, for alignment with the incident radiation. The substrate and the linear photosensor array are arranged in a fixed configuration.

Claim 39 stands rejected over Kingsley, in view of Huang. However, the cited art does not teach a linear array CT scanner with a substrate comprising a polymer, where each of the photosensors is oriented at a predetermined angle relative to an adjacent one of the photosensors for alignment with the incident radiation, and where the substrate and the linear photosensor array are arranged in a fixed configuration. In view of the above, Applicants respectfully submit that Claim 39 is patentably distinguishable over the cited art and request that the rejection of Claim 39 under 35 USC 103(a) be withdrawn.

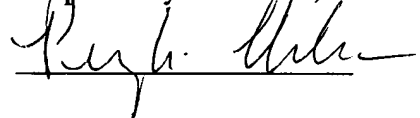
In view of the above, Applicants respectfully submit that Claims 1, 3, 4, 8-15, 17-39 and 41 are in condition for allowance.

**CONCLUSION**

In view of the foregoing, Applicants respectfully submit that the application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are respectfully requested.

Should the Examiner believe that anything further is needed to place the application in even better condition for allowance, the Examiner is requested to contact Applicants' undersigned representative at the telephone number below.

Respectfully submitted,



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